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Trip Report to Sauget, Illinois

Milt Clark, Ph.D.
Environmental and Health Effects Specialist

Karl E. Bremer, Chief
Toxic Substances Section

The following report highlights my most significant activities/observations during my March 2-3, 1982, visit to Sauget, Illinois. Also included are recommendations which I believe deserve attention.

A. Dead Creek

In order to asess the possible impact to human health of pollutants discharged to Dead Creek, private wells were located and sampled in Northern Cahokia which bordered Dead Creek. None of these wells are used for drinking water, but water from them is applied to gardens. Two wells east of Dead Creek and two west were sampled. In addition, three soil samples (composite) were collected from gardens: one east of Dead Creek, the other two west. The well waters will be analyzed for metals, organics, and volatile organics. The garden soils will be tested for metals and organics. The wells and soil sample(s) east of Dead Creek should serve as controls, as groundwater movement is westerly toward the Mississippi (Ron St. John report, IEPA). Individuals were told they will receive a copy of test results and a letter interpreting the results.

Upon interviewing the people who lived in northern Cahokia, bordering fields and Dead Creek in which past hazardous wastes were disposed, we were informed that they knew of no one who had experienced problems of (1) water intrusion into basements, (2) chemical odors in basements, or (3) chemical odors in their well waters. Moreover, a resident of 29 years in northern Cahokia said no wastes were disposed of in trenches near the first row of houses bordering a field. A U.S. EPA flyover of the area revealed possible burial sites, as shown by infrared film. Walking through the fields, gas lines were observed and swells/rolls in the fields. These features correspond to the trench-like features found in the infrared photographs. (The rolls/swells and pipelines would be expected to have a different heat output from the field in general.) This information and discovery was especially releiving, as it means that human exposure to toxics is limited to Dead Creek and primarily by residents who use the groundwater in gardens. Dead Creek is also blocked by a filled-in culvert, at Judith Lane, the first residential street south of Queeny Avenue, making pollutant migration southernly through the residential area minimal.

The 7,000 feet of snow fence placed by IEPA above the Dead Creek (Queeny to Judith Avenue) was observed to have been trampled down in several spots. Children are reported to frequent the creek and ride motorcycles through the bottom. Moreover, only one warning sign is now visible along the entire portion of the creek. Chlorophenolic fumes were evident near Queeny Avenue, and pools of polluted water (oil films) were found in this northern portion of Dead Creek. Moreover, recent chemical dumping was evident 100 feet west of Dead Creek, 100 feet south of Queeny Avenue, and 100 feet south in Dead Creek on the eastern bank.

Two Illinois monitoring wells, #102 (immediately west of Dead Creek at Queeny Avenue) and #101 (350 feet west of Dead Creek), were sampled. Waters will be analyzed for volatile organics, organics, and metals.

Recommendations:

1. A chain link fence should be installed by IEPA to prevent access to Dead Creek from Judith Lane to Queeny Avenue.

2. Illinois EPA should assess and prevent further dumping in the area.

3. Warning signs should be posted by IEPA.

4. Dead Creek should be cleaned up from Judith Lane to Queeny Avenue by removing creek sediment and replacing with clean soil. Drainage below Judith Lane to the DuPont Floodway should be improved to prevent water from accumulating. (Culverts need to opened, creek bed sloped, etc.)

B. Sauget Publically Owned Sewage Treatment Works

The most startling, disturbing observations of the industrialized Sauget area were made at the Sauget Wastewater Treatment Works. The effluent from this facility (a pretreatment facility) is extremely odoriferous, volatile, and colored brightly yellow (most probably from chloronitrobenzenes). About eight million gallons per day of wastewater (>99% industrial) enters the Mississippi. This wastewater is believed to contain at least 30 priority pollutants which, if one extrapolates, contributes 600,000 pounds of priority, toxic pollutants yearly to the Mississippi River. If so, this is the most significant single source of toxic pollutants to the Mississippi River in the St. Louis area, possibly within the entire Mississippi River drainage basin.

The effluent from the treatment plant is clearly posing an unreasonable threat to the environment and human health. The recent publicity and attention received by the Sauget toxic dump site should be redirected to the Sauget POTW, which, by several orders of magnitude, is releasing far more toxic pollutants into the Mississippi than is the dump site. There is highly suggestive evidence reported in October 1981 by the FDA that the POTW has caused chemical contamination of fish downstream of the outfall. Buffalo, carp, and catfish collected 1/2 to 2-1/2 miles downstream of the outfall were found to contain higher levels of 29 of 36 chemicals detected in comparison to fish collected upstream. Five of the chemicals found in fish flesh (chloronitrobenzenes and triphenylphosphate) were only detected in fish collected downstream of the treatment facility. According to the TSCA 1977 inventory, these chemicals are produced by Monsanto. These chemicals have also been detected in the Sauget effluent (Identification of Organic Pollutants and Mutagens in Industrial and Municipal Effluents, J. B. Johnston and R. A. Larson, FW-38, IEPA). A total of 67 organic chemicals, mostly chlorinated aromatics, were found in the Sauget effluent. More definitive

studies (caged fish) or analyses performed on fish of the same species and weight will be necessary to conclude that the POTW/Monsanto or other industries are responsible for fish contamination. Human health may also be effected via the consumption of fish or water from the Mississippi downstream of the POTW effluent.

The treament plant, which is only performing pretreatment (neutralization, flocculation) is grossly inadequate. The plant was built with federal assistance, although it is clearly treating almost exclusively industrial wastewaters. Plans have been made to have the Sauget (200 people) plant receive primary effluent from the Cahokia (25,000) and East St. Louis (60,000) to create a regional treatment system (secondary treatment/activated carbon). In June 1980, a Step 2 Regional Grant of $3.2 million was approved. Limited treatability studies, using a porportioned mixture from these communities, have been performed. Approximately 80% COD removal and >95% of priority pollutants were reported. The timetable for completion of this facility is unknown.

Recommendations:

** 1. Expediting treatment system(s) to reduce the discharge to the Mississippi River of toxic pollutants should be made a top priority by Region V EPA and IEPA.

** 2. Consideration should be given to the installation (within one year) of an interim activated carbon or other appropriate system at the Sauget POTW. Industries in the area should pay construction and operation costs of this system.

** 3. Opinions of consultants should be sought by U.S. EPA and IEPA to provide expert opinion on:

a. Installation (within one year) of an interim activated carbon or other appropriate system at the Sauget POTW.

b. Offering advise to the feasibility of encorporating domestic sewage from East St. Louis and Cahokia with very toxic, poorly degrabable organics. The potential for upset of the biological system should be considered. Alternatives such as (1) pretreatment at each of the industries in the Sauget area, and (2) a separate treatment systems at Sauget from that of East St. Louis and Cahokia should be considered.

** 4. Legal remedies to achieve No. 2 above should be explored by U.S. EPA, including suspending or modifying the NPDES permit for Sauget. Effluent data from the Sauget plant and individual manufacturers (from the toxics survey) should aid in this endeavor. One possibility would be charging for pounds of materials discharged to the Mississippi after a certain date.

C. Air Pollution Sources

Emissions from Monsanto and Midwest Rubber were specially odoriferous. On more than one occasion, from both of these plants, dark, black smoke was released. Cerro Copper was also observed to have periodic releases of yellow-orange smoke. A hazardous waste incinerator (Trade Waste) near the Sauget POTW was observed to be emitting a dark grey smoke a night; flames being visible out the stack. No such emissions were noted during the day.

Recommendations:

1. Opacity studies of air sources should be made in the Sauget area.

2. An investigation should be conducted on Trade Waste as to wastes being incinerated and emissions.

3. Studies should be conducted on types and volumes of chemicals released, human exposure, and methods to reduce emissions, if required.

D. Hazardous Waste Dump Sites

Pooled water was observed at dump sites locted north of Monsanto, immediately west of Failing Springs Road. Recent dumping (oily liquid) at the most northern dump site was noted. The potential for offsite migration seemed highly probable.

Recommendations:

1. IEPA or U.S. EPA should collect and analyze surface water samples.

2. Site inspection should be conducted if water samples prove positive for organics or metals.

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